



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Natural resource decisions, economic sustainability and social well-being: a scoping paper for Target 12

WORKING PAPER 1



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NSW Department of Primary Industries

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Natural resource decisions, economic sustainability and social well-being:

a scoping paper for Target 12

Working Paper 1

Working Paper Series for Target 12:
Economic Sustainability and Social Well-being

Don Vernon and Ruth Thomason
NSW Department of Primary Industries

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Disclaimer The information contained in this publication is based on knowledge and understanding at the time of writing (November 2007). However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate departmental officer or the user's independent advisor.

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Target 12 Scoping Paper

Towards an MER relevant understanding of natural resource decisions and their relationship with economic sustainability and social well-being.¹

This Scoping Paper begins the task of the Department of Primary Industries leading the development of a socio-economic monitoring program in response to the NRC Standard for quality natural resource management (NRM) and in particular to Community Target 12 (T12). It includes an overview of the broad context, relationships and clients before outlining the project focus on developing a feasible low-cost, flexible and repeatable approach to monitoring, evaluating and reporting on the conditions underlying NRM decisions and their influence on the potential of those decisions to make a positive contribution to economic sustainability and social well-being. Relevant objectives and strategies are outlined before identifying the key phases and activities of the development project.

¹ This paper has been prepared by Don Vernon and Ruth Thomason of the Department of Primary Industries, Orange. The ideas in this paper have been informed by a wide variety of statements, including the NSW State Plan (PDP Priority E4), NRC Standards and Targets, the MER Strategy as well as comments by the Interagency Steering Committee and the T12 Development Team.

1. Introduction

The community initiative known as Target 12 (T12) focuses on natural resource decisions and their potential contribution to economic sustainability and social well-being. It is a part of a broader emphasis by government, industry and the community on improving natural resource management (NRM) and the state of natural resources in NSW embodied in the Natural Resource Commission's (NRC) Standard and Targets and the NSW State Plan. In turn the activities and systems being developed by the NSW Department of Primary Industries to implement its responsibilities for T12 are guided by the NSW Monitoring, Evaluation and Reporting Strategy (MERI). This section provides a brief introduction to the community target T12 within the context of these plans and strategies.

NRC Standard and Targets

The current phase of NRM concern and activity began during 2003 when the NSW Government launched a new era of natural resource management with an emphasis on a more outcomes-based approach. Thirteen community-driven Catchment Management Authorities (CMAs) were established to deliver natural resource programs at the regional level. State agencies were tasked with developing policies and state-wide programs to deliver on overarching NRM outcomes.

Further, an independent Natural Resources Commission was charged with recommending a state-wide Standard for quality NRM and setting Targets to guide the work of the CMAs. The NRC has an overarching *Aspirational Goal for NRM* expressed as follows 'that in the longer-term there are healthy, functional landscapes in NSW that support the environmental, economic and social/cultural values of the community.'

The NRC's *Standard* is designed to promote high-quality management of natural resources in NSW by ensuring that the process is robust and rigorous. The Standard emphasises the use of best available information and analysis, including science, local knowledge, community values, and state priorities. Aboriginal values and interests in NRM are integrated within information and approaches rather 'than as add-on.' Overall, the Standard provides a framework for using science and information in appropriate ways, rather than imposing scientific rules or benchmarks.

The thirteen *State-wide Targets* describe the State's goals to maintain and improve the fundamentals of a healthy landscape, as well as some specific state priorities that contribute to the achievement of these Targets. The overall purpose of the Targets is to ensure progress towards the goal. It is recognized that their adoption and implementation, 'will require trade-offs between environmental, economic, social/cultural values at local, regional and state scales.' The Targets place the focus at the state level on the overall health of the landscape and any clear state priorities.

Together, the Standard and Targets seek to achieve better value for money and to ensure that resources are focused on government priorities.

Table 1. NRC State-wide Resource Condition Targets

Biodiversity	
Macro-environmental²	<ol style="list-style-type: none">1. By 2015 there is an increase in native vegetation extent and an improvement in native vegetation condition.2. By 2015 there is an increase in the number of sustainable populations of a range of native fauna species.
Specific priorities³	<ol style="list-style-type: none">3. By 2015 there is an increase in the recovery of threatened species, populations and ecological communities.4. By 2015 there is a reduction in the impact of invasive species.
Water	
Macro-environmental	<ol style="list-style-type: none">5. By 2015 there is an improvement in the condition of riverine ecosystems.6. By 2015 there is an improvement in the ability of groundwater systems to support groundwater dependent ecosystems and designated beneficial uses.7. By 2015 there is no decline in the condition of marine waters and ecosystems.
Specific priorities	<ol style="list-style-type: none">8. By 2015 there is an improvement in the condition of important wetlands, and the extent of those wetlands is maintained.9. By 2015 there is an improvement in the condition of estuaries and coastal lake ecosystems.
Land	
Macro-environmental	<ol style="list-style-type: none">10. By 2015 there is an improvement in soil condition.
Specific priorities	<ol style="list-style-type: none">11. By 2015 there is an increase in the area of land that is managed within its capability.
Community	
Macro-environmental	<ol style="list-style-type: none">12. Natural resource decisions contribute to improving or maintaining economic sustainability and social well-being.
Specific priorities	<ol style="list-style-type: none">13. There is an increase in the capacity of natural resource managers to contribute to regionally relevant natural resource management.

State Plan

The NSW Government has now adopted the Standard and the 13 accompanying Targets (see Table 1 above) under the State Plan Priority E4: Better outcomes for native vegetation, biodiversity, land, rivers, and coastal waterways.

² NRC NRC Standard for Quality NRM p 6 macro-environmental targets focus on fundamental functions of key natural resource assets

³ NRC NRC Standard for Quality NRM p 6 specific priorities identify specific state priorities and values

MERI Strategy

The NSW Natural Resources Monitoring, Evaluation and Reporting and Improvement (MERI) Strategy was developed in August 2006 by the NSW Natural Resources & Environment CEO Cluster Group to implement the NRC Standards and Targets. The purpose of this Strategy is to refocus the resources of NSW natural resources and environment agencies and coordinate their efforts with Catchment Management Authorities, local governments, landholders and other natural resource managers to establish a system of monitoring, evaluation and reporting on natural resource condition.

That system will:

- make best use of existing resource condition information to inform the development of policy, investment decisions and best practice management by all natural resource managers across NSW;
- help NSW agencies to lead the integration of currently disparate monitoring programs and information sources which are relevant to particular NSW Government state-wide natural resource condition Targets;
- measure progress against the NSW Government State-wide natural resource condition Targets;
- measure progress against catchment natural resource management Targets;
- continue to enable NSW DECC to report at a state-wide level on the State of the Environment;
- provide regional NRM information for local government 'State of the Environment' reports, and NSW monitoring data to the National Land and Water Resources Audit for national level MERI.

The Strategy has been developed by the Natural Resources and Environment CEO Cluster Group, after a review of existing programs to ensure that agencies can continue to meet statutory and other monitoring commitments and keep within current budget constraints.

The Role of T12

Target 12: *'Natural resource decisions contribute to improving or maintaining economic sustainability and social well-being'*

The role of T12 is to monitor key elements underpinning and informing public NRM investment decisions in order that they may result in 'the achievement of natural resource outcomes that are in the environmental, economic and social/cultural interests of the state'.⁴ For NSW, a key component of the T12 role is to give the NRC and the NSW Government's biophysical targets a community face.

The Natural Resources Commission notes that: the 'intent of Target 12 (T12) is not to measure the success of NRM against the overall health and well-being of communities since so many other factors influence these outcomes. The Commission has placed the emphasis on an MER process capable of measuring progress in the potential of NRM decisions to make a positive contribution to these outcomes.'⁵

⁴ NRC Standard for Quality NRM p. 4

⁵ NRC Standard for Quality NRM p. 27

2. Policy relationships and linkages

There is a wide array of community, government and industry interests in NRM decision processes and outcomes which highlight the role of the T12 community Target as an integrative force in the MERI strategy. As noted in Section 1, these interests are expressed through a number of key state level policies and strategies including the NSW State Plan and the NRC Standard and Targets. They are also a key component of strategies and plans by a number of national, state, regional and local agencies/bodies. The policies and plans incorporate specific expectations and/or more general complementary links and relationships. Collectively, they have the potential to influence public, industry and private investment. Key policy relationships for T12 are noted below. An example of the policy context for public biodiversity investments and some potential clients of T12 MER information are illustrated in Box 2.

Specific requirements

- NSW State Plan (PDP E4)
- NRC Standards and Targets (SAT), including cross-Target role (with biophysical Targets 1–11) to contribute a socio-economic understanding to the development of MERI approaches.
- NSW NRM MERI strategy and implementation plan (see p. 4).

Complementary linkages

There are policies and programs across government which do not make specific reference to T12 but which may be regarded as complementary to the socio-economic Target. Such policies may refer to measures/indicators of socio-economic performance more broadly, or provide guidance as to quality decision making, and reporting processes etc. T12 recognises the need to build links with these programs on a collaborative basis. Particular issues and areas include the following:

National

- Linking with national and other state approaches to monitoring and reporting in relation to socio-economic outcomes

State

- Supporting CMAs in meeting the NRC's Standard for Quality NRM mandatory outcomes and MER Framework for CMAs (DECC 2007)
- Providing information for the State of the Environment Report
- Linking with State Plan Priority F1 to monitor improvement in social well-being for Aboriginal people via NRM

Local

- Council Local Environment Plans (LEPs)
- Sydney Catchments Authority's Water Management License, Regional Environmental Plans
- Department of Environment and Climate Change (DECC) Regional Conservation Plans (see box below).

Box 1

Regional Conservation Plans

Processes for regional land use planning which are inclusive and informed by consideration of socio-economic outcomes facilitate regional scale development decisions. DECC will prepare regional conservation plans (RCPs) in priority areas (7 regions and 8 sub-regions) by June 2008. These will become the basis for the bio-certification of environmental planning instruments that meet the 'maintain or improve' test for biodiversity conservation. Successful implementation will depend on an improved understanding of the distribution of plants and animals and the associated change in the potential of NRM to maintain/improve socio-economic outcomes.

Together with directions under the *Environmental Planning and Assessment (EPA) Act 1979* and advice from natural resource and environment agencies, RCP's will provide guidance to councils preparing local environmental plans (LEPs) on improved management of their natural resources, such as water and soils. They also provide direction on how to best manage natural hazards such as flooding, coastal erosion and the impact of climate change. The Catchment Management Targets from the Catchment Action Plans (CAPs) provide the regional context for the rehabilitation and enhancement of these resources and guide regional investment priorities for funding this work.

Regional land use planning strategies are translated into local strategies, then given statutory effect through development controls such as LEPs. In turn, LEPs aim to provide certainty to industry and reduce red tape, while still achieving natural resource goals. Councils and CMAs are being encouraged to work with each other to ensure alignment between CAPs, RCPs and LEPs (a direction is to be issued under s.117 EPA Act by June 2008).

3. Socio-Economic Context

Scoping economic sustainability and social well-being

Linkages and connections with NRM decisions

There is recognition of the widespread degradation of natural resources, not only in NSW over the last 200-plus years but also on a global scale. Yet ‘conventional’ measures of social and economic performance (income, employment, health, education, housing, etc.) are suggestive of aggregate improvements, at least for non-Indigenous people in developed countries (including Australia) over the same period. This raises the question of whether the socio-economic outcomes for most people are largely disconnected from the environment.

Observed improvements in socio-economic measures are somewhat inconsistent with a contemporary understanding of the reliance of humans on bio-services for basic needs, e.g. clean air and water. The NRC acknowledges this interdependency in the long-term goal of ‘healthy, functional landscapes in NSW’. The interdependencies between communities and natural resource condition are inextricable as ‘capacity to achieve natural resource outcomes is directly affected by economic sustainability and social well-being, which in turn are fundamentally dependent on the underlying condition of natural resource assets.’⁶ Nevertheless, these interconnections between the environment and socio-economic outcomes are often difficult to quantify. It is widely observed that ‘there is no straightforward relationship between community vitality viability and health (VVH) and natural resources, or the condition of natural resources. The environmental setting may contribute to or detract from community VVH, or may have no influence at all.’⁷ (NLWRA report 2007.)

BOX 2

Biodiversity Change

Native vegetation extent is reduced through clearing and increased through revegetation activities and natural regeneration. Since 1788, at least 61% of the original native vegetation of NSW has been cleared, thinned or significantly disturbed. This has primarily taken place to support agriculture in the inland, but more recently also for residential, commercial and industrial uses along the coast. Clearing rates vary across NSW with the highest pressures being in the wheat belt areas of the North and Central West.

In addition to reducing native vegetation extent, clearing breaks up continuous blocks of vegetation into remnants. Within these remnants, the degrading effects of weed invasion, climate change and overgrazing are magnified, reducing vegetation condition along with social and economic outcomes. These widespread phenomena operate over long time frames, presenting real challenges for achieving the Targets for fauna and threatened species, invasive species and making a positive contribution to economic sustainability and social well-being. Further, it needs to be recognised that biodiversity decisions are likely to have different impacts on various sectors within communities, on farmers, on aboriginal people and on the community at large.

⁶ NRC NRC Standard for Quality NRM t p 26

⁷ URS, 2007 The relationship between community vitality , viability and health and natural resources and their management *

The links between people and the environment are relatively obvious at the aggregate of catchment or state scale and beyond. At these scales, the status of natural resource condition is much clearer and people recognise their dependence on natural resources being in good condition. Ecosystem services provide the fundamental needs for life including food, clean water, climate regulation, nutrient and waste recycling. The links are likely to be far more subtle at the local farm, household, industry or smaller community level due to the influence and complexities of markets (& missing markets), institutions and infrastructure.

In contrast, it is important to note that disconnection from country and widespread, long-standing environmental degradation *is* broadly reflected in the ignominious social and economic performance data for Indigenous people.

Importantly, T12 MERI approaches will incorporate recognition of the 2 way relationship between NRM and socio-economic outcomes. For example relevant, any increase in capacity of social institutions and levels of human and financial capital are likely to result in better NRM decisions and the potential for further improvement in socio-economic outcomes.

Identifiable Connections

NRM decisions under conventional approaches and measures aimed at addressing environmental degradation are often unlikely to be identifiable as significant contributors to changing levels of 'local and state-wide socio-economic performance. The inability to determine clear linkages stems from a range of factors including the relatively short time frames of marginal change analysis, the often embodied nature of the associated environmental services and the invisibility on non-traded ecosystem services in current national accounting processes. Nonetheless, more comprehensive and inclusive decision approaches implemented following Target 12 are more likely to provide a positive contribution to socio-economic performance as follows.

- Decision-making processes may be guided by community based understanding of social and economic impacts from alternate NRM actions over time (beyond conventional measures) and increase the likelihood that NRM changes may be identifiable as a contribution to aggregate socio-economic performance generally, as well as for groups of special concern such as Indigenous people.
- Resulting measures are also more likely to capture and communicate the symbiotic relationship and multiplicative biophysical and associated socio-economic outcomes from a combination of NRM decisions and processes in a relevant, community focused frame. This may increase the likelihood that NRM changes may be identifiable as a contribution to aggregate socio-economic performance either for a reporting period or over time.

This places the emphasis in Target 12 on facilitating processes that go beyond the 'conventional' and contribute to more relevant and comprehensive indicators of socio-economic change. This will improve the potential for positive outcomes for both resource condition and community vitality, viability and health (VVH).

Target 12 will focus on the source and nature of positive outcomes (e.g. through inclusive NRM decision processes and appropriately framed information for decision makers) and on how positive contributions might continue to be generated amid future key impacts such as climate change.

NRM decision making foundations and processes

Developing the MER Framework

The Framework is a basic conceptual structure to work through the complex issue of developing appropriate management responses to current and future risk factors. This framework needs key policy decisions to be made and issues with risk analysis and evaluation identified.

4. The T12 Approach

Improving NRM Decision Processes/Decisions

The biophysical Targets are vital to maintain the flow of bio-services which underpin community well-being. However, biophysical MERI is unlikely to be effective in achieving social goals if NRM decision makers don't incorporate socio-economic and cultural values explicitly into their processes. The biophysical results and reports need to be shaped to inform a broad audience. Indicators of progress towards the Targets need to be heard by the wider NSW community and may require some translation and reframing to achieve this in a way that highlights outcomes for people and communities: to build confidence and awareness of the benefits of NRM change. Vital to this is the communication between the NSW community, scientists, CMAs and NSW government agencies of socio-economic messages which are relevant to people's values. It is the fostering of these relationships that will help to realise the potential by the broader community to be informed and consequently feel more a part of NRM decisions and improvements.

Partnerships between Government, the community and scientists are the conduits for information leading to actions which can improve social well-being and resource conditions in parallel. This communication needs to be multi-directional as 'integrating scientific study into management [requires] some feedback that occurs among scientists regarding which types of measures and which kinds of indicators are useful to managers in making difficult decisions.'⁸

With Target 12 we aim to form a circle, or at least to be the catalyst for forming a talking circle. This sharing of knowledge and perspectives is critical to engaging and informing science (including the biophysical Targets), the broader community, including Indigenous people, and NRM relevant institutions. Ongoing and inclusive NRM discussions based on meaningful socio-economic measures and information are critical components of an efficient MERI system.

Given the broad range of expectations, the need to facilitate the sharing (the talking circle approach) and improvement of information and to enhance support for NRM change in the broader community, T12 clients are diverse and include:

- information-based clients such as NRC, DECC and central agencies, who require more immediate and defined reporting through SAT (NRC) and through the State of the Environment report (SOE, DECC);
- process-based clients (e.g. CMAs and local governments), who require information on socio-economic outcomes and approaches;
- and, through these channels, ultimately the broader NSW community both now and into the future.

Broadening parameters (both intellectually and through processes and incentives) for more inclusive and informed NRM decisions will not be easy. The potential inspired through some of the current innovative approaches and levers is tempered by recognition of the challenges in managing the impacts of major current and emerging cross-Target environmental shocks such as drought and climate change. Additionally

⁸ Norton Bryan G 1998 'Improving Ecological Communication: the role of Ecologists in Environmental Policy Formation' *Ecological Applications Vol 8 no2*

existing institutional challenges (e.g. participatory and information imbalances) and socio-economic inequities may limit the potential to improve catchment decision-making processes, thus building community confidence about NRM investments.

Good socio-economic information exists but research directly connecting social well-being and economic sustainability to NRM is less evident. Therefore the benefit of Target 12 will be in further linking people working in CMAs, NRM agencies, national bodies, communities and local government. Strengthening these associations is important to, 'develop excellent "informing systems" so that technical information can be combined with knowledge of social processes in order to [better] inform NRM decisions.'⁹

To be useful in interpreting NRM MERI, the development of Target 12 will consider alternative processes and information. T12 will be informed by meaningful perspectives of the relationship between NRM decisions and overall socio-economic performance for all affected groups. Critically, the approach is to be responsive and adaptive but to complement existing processes and institutions.

The quality of the decisions/decision processes are pivotal in the goal of continually improving the MERI process.

Public/Community context

Target 12 aims to facilitate a meaningful, community based understanding of the relative contribution of NRM actions to socio-economic outcomes. It is acknowledged that 'Community is practised and construed in a variety of ways across the catchment(s).'

¹⁰ Therefore Target 12 will provide a process for considering NRM change in terms of its implications for the broader NSW community:

- as individuals and in aggregate;
- as farmers and indigenous people;
- as volunteers and industry workers;
- as rural and regional communities and metro centres.

NRM investment decisions aimed at public good outcomes are likely to require an understanding of community relevant socio-economic impacts from complementary public and private decision processes.

Delivering on NRM Targets is also dependent on land use planning decisions by local government. Collaborative land use planning provides an integrated approach for making development decisions which minimise or offset natural resource losses. These decisions need to be considered in a manner which is informed and enhanced by the recognition of the many dimensions of socio-economic outcomes.

Private context

Reflecting their significance as land owners and managers, significant public investment in NRM change (e.g. by CMAs) is directed at private landholders. These landholders already have private incentives underpinning their autonomous adjustments/investment decisions. These decisions are typically interdependent with production/development decisions. Private incentives need to be understood if public investment decisions are to efficiently augment them and influence or purchase

⁹ Kathleen Broderick 'Communities in Catchments: Implications for Natural Resource Management' UWA, 2005.

¹⁰ Kathleen Broderick, *ibid.*

different outcomes. For example it should be recognised that where private incentives are sufficiently coincidental, publicly targeted conservation and asset condition outcomes may be generated autonomously (despite significant levels of associated industry and community spill over).

Summary of T12 Objectives

The T12 MER program aims to inform public investment clients about the changing potential for NRM decisions to positively contribute to socio-economic outcomes. T12 mirrors the NRC's Standard by providing a framework which facilitates required outcomes and supports flexibility and innovation. This is reflected in the intention to provide a core of state level information but with some scope for adaptation and implementation by regional bodies.

Objectives

The project aims to develop a flexible MER approach focussed on the key elements underpinning informed and inclusive NRM decisions. Such an approach would:

- provide substantial guidance for decisions regarding both the nature and extent of NRM investments by relevant government agencies
- facilitate the development of indicators of broad investment constraints and/or the likelihood of positive socio-economic outcomes
- complement the private investment, land manager focus of Target 13
- facilitate the development of feasible, low cost and repeatable MERI systems for NRM related agencies with state and regional responsibilities and be on common ground with any comparable reporting systems in non-NRM sectors
- build on socio-economic MER approaches developed nationally and interstate
- complement the role of the NRC in auditing NRM investment decisions

Within the context of the NRC Standard and Targets endorsed under the NSW State Plan and the NSW Government's MERI Strategy, the objectives of this Target 12 project are as follows. To develop and implement a framework and implementation guide to processes for monitoring and reporting on the potential for NRM decisions to positively contribute to economic sustainability and social well-being (in aggregate and across various groups and regions) as a result of:

- options for actual or anticipated biophysical change being framed in socio-economic terms;
- options for inclusive, informed NRM decision making processes being framed in socio-economic terms;
- variations in the measures and interpretation of economic sustainability and social well-being ('conventional' and beyond) affecting the scope of potential contributions;
- changes in the overall level of economic sustainability and social well-being affecting the potential pace of NRM change.

Strategies

- Enhancing the effectiveness of existing incentives and institutions for NRM decisions and socio-economic outcomes.

- Building on existing information and supporting NRM change in the broader community and recognition that resource condition improvement, rather than jeopardising/compounding S/E performance/outcomes, can enhance/sustain these outcomes in the longer term.
- Working collaboratively to pursue related State Plan and NRM priorities.

5. Project Outline

Project Phases and Activities

The project consists of four phases reflecting the major activities identified for the development the T12 MER approach. The T12 target has been recognised as complex, requiring significant scoping in order to identify and consider its many dimensions and linkages, and to develop practical and community relevant approaches and reporting systems. Accordingly, the first phase focuses on scoping socio-economic measures and linkages, processes and underlying factors via a series of development papers before incorporating key findings into the development of a draft T12 Framework in Phase 2. In turn the Phase 1 papers together with the Framework are used to guide the development and piloting of flexible T12 processes for state-wide and regional reporting in Phase 3. Following evaluation, these processes will be revised and guidelines produced for state-wide implementation in Phase 4.

Overall management of the project will be undertaken by DPI with support from the project development team (T12 team) of specialist professionals identified by CSIRO, Cavaye Community Development, Tim Cummins & Associates supplemented by expert contributions from selected institutes and individuals including UNE and Mike Salvaris. Responsibilities are outlined in the table below.

Table 1 T12 project Major Phases and Activities

Phases	Activities	Outputs	Program/by whom
1. Development papers to scope measures of socio-economic performance, NRM decision processes and the linkages between NRM decisions and socio-economic outcomes. JSC Milestone 1	<ul style="list-style-type: none"> Undertake development papers (DP) 		
	DP 1- Measures of Social & Economic Well-being in NR Governance	Draft Paper	Early Jan 08 UNE
	DP 2- Linkages between NRM decisions and socio-economic outcomes	Draft Paper	Early Jan 08 UNE
	DP 3- NRM decision making context and processes	Draft Paper	Early Jan 08 Mike Salvaris
	DP 4- Towards a framework for monitoring key elements underlying the changing potential of NRM decisions to contribute to economic sustainability and social well-being	Draft Paper	Early Jan 08 CSIRO
	<ul style="list-style-type: none"> Discussion Papers circulated for review 		Jan 08 DPI
	<ul style="list-style-type: none"> Workshop* to review and integrate key findings of Discussion Papers 	Collaborative approach	6th Feb Facilitate UNE
	<ul style="list-style-type: none"> Comments co-ordinated and provided to authors 	Final Papers MER extranet	Mid Feb DPI
<ul style="list-style-type: none"> Report on Conceptual Development Stage 	Report	Mid Feb CSIRO lead	
2. Development of T12 framework for building evidence based reporting processes for the macro community target. JSC Milestone 2	<ul style="list-style-type: none"> Draft preliminary framework -identify methods, sampling including variations, resources and key conceptual approaches e.g. community consultation, adaptive capacity, geospatial representation of data. -identify key risks in application of the framework 	Draft Paper	Late Feb 08 CSIRO

	including relevance, legitimacy and credibility. -establish context with particular regard to MERI approach. -comply NRC Standard- Required outcomes		
	<ul style="list-style-type: none"> Workshop* to develop preliminary framework 	Draft Framework	March 08 CSIRO lead & collate resp's
Phases	Activities	Outputs	Program/by whom
3. Applying the framework in the development of pilot processes & reporting systems with State-wide & regional NRM bodies, particularly CMAs JSC Milestone 3	<ul style="list-style-type: none"> Apply preliminary framework in developing optional T12 monitoring and reporting approaches at State and regional levels with an understanding of the information types and quality required (for NRC Standard and MERI approach) and associated agency resource requirements† 	Options and Draft Guidelines	March 08 JC to lead with UNE, CSIRO, DPI & TC
	<ul style="list-style-type: none"> Identify and address associated data management requirements 	Data management systems	March 08 DPI ICT with CSIRO
	<ul style="list-style-type: none"> Consult with selected CMAs (Hunter/Central West), NRM related government agencies and MER theme teams regarding the proposed piloting program approach. 	Consultations	Mid March DPI, JC & CSIRO
	<ul style="list-style-type: none"> In conjunction with selected CMAs and MER groups, pilot T12 monitoring and reporting processes in laboratory (coastal, inland & metro areas) and field situations including ; processes to develop objective and community perspectives of NRM relevant socio-economic indicators, key trends and shocks, and communications about the socio-economic significance of NRM decisions. 	Draft Evaluation Report of pilots for appropriateness, effectiveness and efficiency	Late March-May JC, TC & CSIRO (TM)
	<ul style="list-style-type: none"> Workshop* with NRC, NRINC steering committee to review draft Evaluation Report of T12 pilot processes 	Sign off on T12 processes	Late July 08 T12 team Facilitated JC & TC
	<ul style="list-style-type: none"> Finalise T12 Framework, MER processes, guidelines and report cards 	Final Framework, Final MER processes & guidelines, report card template	September 08 CSIRO lead DPI & JC
	4. Implementation of T12 approach and guidelines.	<ul style="list-style-type: none"> Provide final T12 Approach and Guidelines at regional and state levels with an understanding of the information quality (for MERI approach) and associated agency resource requirements. 	Provide Final Project Report
	<ul style="list-style-type: none"> Workshop* for state and 	Uploaded to MER	Late Nov 08

JSC Milestone 4	regional MER staff to launch the T12 Approach and Guidelines.	extranet	T12 team & CMA officers
	<ul style="list-style-type: none"> • Provide information for State of the Environment requirements 	Report	Nov 08 DPI
<p>*Workshops organised by DPI</p> <p>†scope of CMAs & land managers will be reduced to meet deadlines</p>			

6. Resources and Constraints

Resources

T12 has been funded as a development project until 2008. A flexible MER approach involving varying resource requirements beyond 2008 will be identified as part of the development process.

Constraints

The NRC Standards and Targets document was finalised in September 2005, after many of the CMAs had developed Catchment Action Plans and subsequent Investment Plans. As a result, the current work under the NSW MER Strategy including the T12 development phase is not able to influence investment strategy in this CMA reporting cycle.



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